Chart Book: Availability and Utilization of Health Care Services at Acute Care Hospitals and Federally Qualified Health Centers



Fiscal Year 2010

October 2011

State of Connecticut

Department of Public Health

Office of Health
Care Access

410 Capitol Avenue Hartford, CT 06134

Executive Summary

This report includes a general overview of the availability and utilization of health care services (inpatient, outpatient and emergency department) provided by the state's acute care hospitals and primary care and preventive community based outpatient services provided by the state's 13 Federally Qualified Health Centers (FQHC) grantees.

Connecticut has 30 hospitals licensed to provide acute care in the state; 29 are not-for-profit and one is for-profit. There is one hospital dedicated to the treatment of children under age 18. These acute care hospitals treat patients for relatively short but serious episodes of illness or trauma that may require surgery or inpatient care. This publication includes information on the availability of beds; hospital occupancy rates; inpatient, outpatient and emergency department utilization; hospital discharges within the context of socioeconomic population groups; the demographic characteristics of patients utilizing the state's hospitals; type of services they are receiving; and payers for that care. Acute care hospitalization utilization is the primary focus of this report due to the availability of information provided by each hospital to the Department of Public Health (DPH). Utilization of FQHC services and patient demographics are also included in this publication.

Key Findings for Fiscal Year 2010:

- Connecticut's 30 acute care hospitals had a total of 9,358 licensed, 8,370 available and 6,848 staffed beds.
- 58% of available beds were adult medical/surgical beds.
- Available adult medical/surgical beds accounted for 1.77 beds/1,000 people age 18 and over; available pediatric beds accounted for 1.40 beds /1,000 children under age 18.
- The largest group of persons discharged from acute care hospitals was age 65 and over.
- Connecticut had a higher proportion of older residents than the nation as a whole, with the median US population at 37.2 compared to Connecticut, at 40.0.

Key Findings for Fiscal Year 2010 (continued):

- Males age 65 and over utilized inpatient care at a rate of 324/1,000 and females age 65 and over at a rate of 308/1,000.
- The average length of stay at an acute-care hospital was 4.8 days.
- The overwhelming majority of discharged inpatients received medical/surgical care.
- Federal and state health care programs paid for the care of 63% of inpatients discharged.
- Since September 2008 the number of uninsured persons that received inpatient health care decreased.
- Approximately 15% of inpatients were discharged to a skilled nursing facility and an additional 13% were discharged home under the care of home health services.
- 15% of persons that presented at an emergency department for treatment were admitted for inpatient care.
- The state use rate for emergency departments was 468 visits/1,000 persons; the most recent available national average (2009) was 415 visits/1,000 persons.
- Females age 18 to 44 had the highest utilization ED rate at 603/1,000, due, in part, to care related to childbirth.
- Males age 65 and over utilized the ED at a rate of 539/1,000, and females age 65 and over at a rate of 565/1,000.
- Hispanics of all races utilized the ED at almost 1.5 times the state rate.
- Medicare, Medicaid and other government payers accounted for 53% of the increase in ED visits from FY 2008 to FY 2010.
- Hospital-based outpatient visits increased by approximately 10% in the last three years.
- FQHCs (Federally Qualified Health Centers) provided a wide range of primary and preventive health services to residents;
 the majority of them had government-sponsored health coverage.

Introduction

Overview

As required by Connecticut General Statutes (C.G.S.) section 19a-634, this report is one of three components of the Department of Public (DPH) Health Office of Health Care Access' (OHCA) approach to planning for Connecticut's health care system. Coupled with information that will be obtained from a statewide inventory of facilities and services, the utilization data contained herein will be incorporated into the Statewide Health Care Facilities and Services Plan to be released in 2012. Using this and additional information, the Plan will help identify gaps in access to care, and promote a more comprehensive approach to system-wide planning.

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This report examines utilization of health care services (inpatient, outpatient and emergency department) provided by the state's acute care hospitals and primary care and preventive community based outpatient services provided by the state's 13 Federally Qualified Health Center (FQHC) grantees.

This publication includes availability of beds; hospital occupancy rates; inpatient, outpatient and emergency department utilization; information on hospital discharges within the context of socioeconomic population groups; the demographic characteristics of patients utilizing the state's hospitals; type of services they are receiving; and payers for that care. This report focuses primarily on inpatient utilization at these acute care hospitals due to the current availability of information provided by each hospital to the Department of Public Health (DPH). Utilization of FQHC services and patient demographics are also included in this publication.

Comprehensive information on preventable hospitalizations and in-depth analyses of emergency department utilization, which were included in prior reports, will be released by OHCA in separate reports in the future.

Data Sources, Methods and Limitations

This report is limited to information from data sources currently available to OHCA. As other critical utilization data (e.g., outpatient and/or claims data) is made available to OHCA, the ability to report on utilization trends and identify gaps in access to care will be enhanced.

All hospitals in Connecticut report data using the federal fiscal year which starts on October 1 and ends on September 30. Report results rely on patient volumes (discharges for inpatient care and visits for hospital-based outpatient and emergency department care) to identify trends. Unless otherwise noted, hospital fiscal year (FY) is used. In some cases, three-year average data for FYs 2007 to 2010 is utilized to increase statistical reliability.

FY 2010 Inpatient Discharge and Emergency Department (ED) data from Connecticut's 29 not-for-profit hospitals were included in this report. The inpatient discharge data are from OHCA's Hospital Inpatient Discharge Database and the ED data were obtained from the Connecticut Hospital Association, Chime, Inc. database. The state's single for-profit hospital reports independently from the not-for-profit hospitals and, as such, FY 2010 data were not available at the time of publication. Hospital-based outpatient visits were obtained from OHCA's Hospital Reporting System (HRS).

Other data sources include the U.S. Census for 2000 and 2010 for population and age data, Health Resources and Services Administration - Uniform Data System for information on services provided at the FQHCs, and the University of Connecticut State Data Center (CtSDC) for town groupings and additional population information. PubMed Health, a service provided by the National Center for Biotechnology Information (NCBI) at the U.S. National Library of Medicine (NLM) was used in the categorization of reasons for inpatient stays based on the Diagnosis Related Group (DRG) coding. Licensing information was obtained from the Department of Public Health's licensure division.

Town Groupings

For this report, OHCA used town groupings developed by the University of Connecticut's Connecticut State Data Center (CtSDC), the official state liaison to the US Census Bureau. CtSDC distributes Connecticut towns into five distinct groups: rural; suburban; urban periphery, urban core; and wealthy. The groupings are based on similar socioeconomic characteristics -- population density, median family income and poverty level -- rather than location. These town groupings assist in providing a clearer understanding of how health care services in Connecticut are utilized to enable a more refined evaluation of the health care needs and gaps in services that may exist in order to facilitate effective planning.

Hospital inpatient discharges for patients from out-of-state were included in the tables and figures unless the basis for the summary was the CtSDC town groupings. As these patients were not residents of a Connecticut town, their discharge information could not be included in the reported information.

Table 1: Acute Care Bed Occupancy Rates, FYs 2007-2010

| Fiscal Year | Patient Days | Licensed Beds | Available Beds | Staffed Beds | Occupancy Rate of Staffed Beds | % of Avail- able Beds Staffed | Occupancy Rate of Available Beds |
|----------------|-----------------|------------------|-------------------|-----------------|---|---|---|
| 2007 | 2,062,451 | 9,256 | 9,256 | 7,020 | 80% | 76% | 61% |
| 2008 | 2,091,202 | 9,291 | 8,153 | 6,688 | 86% | 82% | 70% |
| 2009 | 2,076,937 | 9,358 | 8,327 | 6,935 | 82% | 83% | 68% |
| 2010 | 2,053,724 | 9,358 | 8,370 | 6,848 | 82% | 82% | 67% |
| 3-yr. Avg. | 2,073,954 | 9,336 | 8,283 | 6,824 | 83% | 82% | 69% |

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Sources: CT Department of Public Health (DPH) Office of Health Care Access (OHCA), Acute Care Hospital Inpatient Discharge Database and Hospital Reporting System Report 400—Hospital Bed Utilization FY 2010

Appendix I reports the number of beds by hospital

Connecticut hospitals are licensed for a specific number of beds. Most hospitals have fewer beds physically ready and available for use and even fewer beds staffed and ready for patients.

Hospitals generally staff beds based on patient demand. The current trend in hospital care is to provide patients with a private room.

The number of available beds decreased significantly from FY 2007 to FY 2008, but increased 2.7% by FY 2010 but still remained below FY 2007 levels. During the same time, the state's population increased by 2.1%. (See Figure 1 on page 9 for additional population information.)

Table 2: Acute Care Bed Occupancy Rates by Hospital Size and Location, FY 2010

| | Hosp | Hospital Classification by Size and Location | | | | | |
|--------------------------------------|--------------------|--|--------------------------|----------------|--------|-------|--|
| | Small Community | Small Urban and Large Community | Medium sized Urban | Large Urban | Unique | СТ | |
| Beds | n= 5 | n=9 | n=9 | n=5 | n=2 | n=30 | |
| Licensed | 526 | 1,600 | 3,410 | 3,451 | 371 | 9,158 | |
| Available | 520 | 1,600 | 2,721 | 31,58 | 371 | 8,376 | |
| % of Licensed | 99% | 100% | 80% | 92% | 100% | 91% | |
| Staffed | 266 | 1,156 | 2,312 | 2,748 | 366 | 6,848 | |
| % of Available | 51% | 72% | 85% | 87% | 99% | 82% | |
| Average Available Bed Occupancy Rate | 37% | 50% | 70% | 75% | 66% | 59% | |
| Average Staffed Bed Occupancy Rate | 75% | 72% | 83% | 90% | 67% | 78% | |

Small community includes Johnson, Milford, New Milford, Rockville General, and Essent-Sharon Hospitals Small urban and large community includes William Backus, Bristol, Charlotte Hungerford, Day Kimball, Greenwich, Griffin, Manchester, MidState and Windham Community Memorial Hospitals

Medium sized urban includes Danbury, Lawrence & Memorial, Middlesex, Hospital of Central Connecticut, Norwalk, Stamford, St. Mary's, St. Vincent's and Waterbury Hospitals

Larger Urban includes Hartford, St. Francis, Bridgeport, St. Raphael and Yale-New Haven Hospitals.

Unique includes John Dempsey Hospital and Connecticut Children's Medical Center

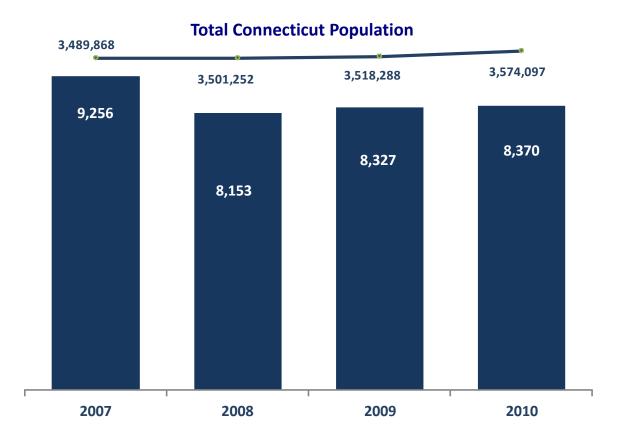
Source: CT DPH OHCA Acute Care Hospital Reporting System Report 400—Hospital Bed Utilization FY 2010

The number of available beds in Connecticut's acute care hospitals ranges from 94 beds in a small community hospital (Essent-Sharon Hospital) to 919 beds in a large urban hospital (Yale-New Haven Hospital).

The large urban hospitals reported the highest average occupancy rate (75%) of available beds. The small community hospitals had the lowest (37%).

The number of beds staffed was greatest in the large urban hospitals (90%).

Figure 1: Available Beds vs. Population Growth, FYs 2007 to 2010



Number of Available Beds by Fiscal Year

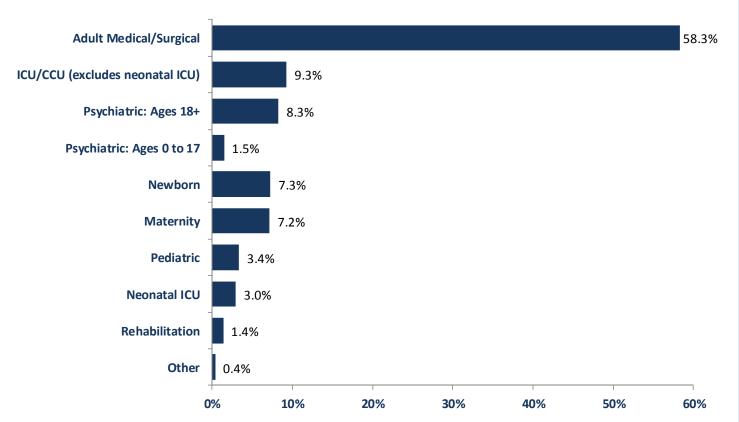
Sources: CT DPH OHCA Hospital Reporting System Report 400—Hospital Bed Utilization FY 2010, Connecticut State Data Center (CtSDC) and US Census Bureau, Census 2010

The U.S. Census 2010 has determined the total population of Connecticut to be 3,574,097 persons, a 4.9% increase from Census 2000.

The number of available acute care hospital beds decreased in FY 2008, but increased in the two subsequent years.

Figure 2: Percent of Available Beds by Bed Type, FY 2010

Percent of Available Beds



In FY 2010, over 58% of acute care beds were adult medical/surgical beds. Intensive care beds for adults (ICU) and newborn intensive care beds (NICU) represented over 12% of total beds.

In FY 2010, available adult medical/surgical beds accounted for 1.77 beds/1,000 people age 18 and over, and available pediatric beds, including bassinettes, accounted for 1.40 beds /1,000 children under age 18.

Source: CT DPH OHCA Hospital Reporting System Report 400—Hospital Bed Utilization FY 2010

Table 3: Census 2010 Connecticut Population by CtSDC Town Grouping

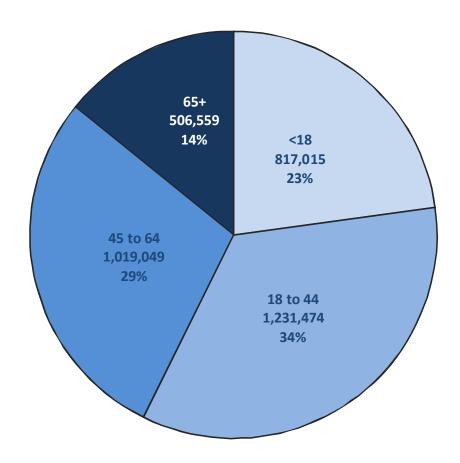
| CtSDC Town Grouping | No. of Towns | Census 2010 Total Population | Census 2010 Population 18 years of age and older | Census 2010 Population under 18 years of age |
|------------------------|--------------------|------------------------------------|--|--|
| Rural | 63 | 489,316 | 385,174 | 104,142 |
| Suburban | 61 | 936,732 | 714,743 | 221,989 |
| Urban Core | 7 | 665,539 | 505,165 | 160,374 |
| Urban Periphery | 30 | 1,294,109 | 1,019,984 | 274,125 |
| Wealthy | 8 | 188,401 | 132,016 | 56,385 |
| Total | 169 | 3,574,097 | 2,757,082 | 817,015 |

More than half of the state's population resided in urban towns, either urban core or urban periphery.

(See Appendix II for map depicting town groupings and an explanation of each group's characteristics.)

Sources: CtSDC and US Census Bureau, Census 2010

Figure 3: Number and Percentage of Connecticut Residents by Age Group, FY 2010



Source: US Census Bureau, Census 2010

Between 2000 and 2010, Connecticut's population age 45 to 64 grew 29% to represent 29% of the state's population.

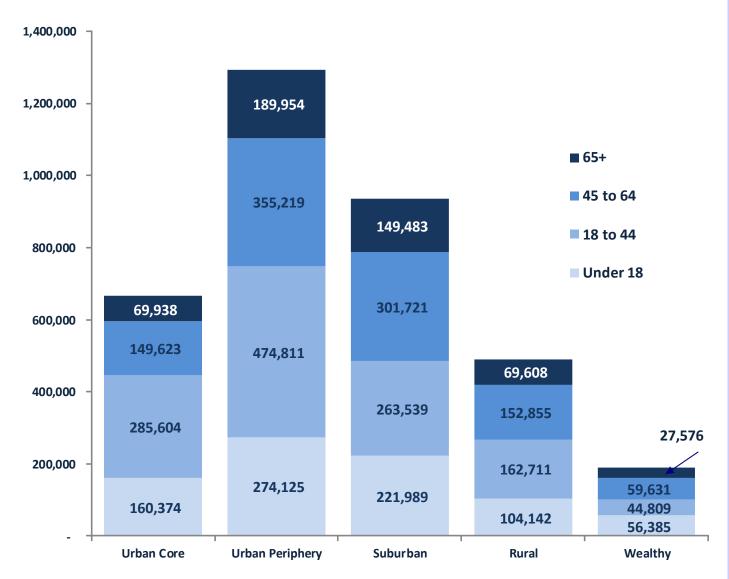
Nationally, this age group makes up 26% of the total population.

The large growth among persons age 45 to 64 is primarily due to the aging of the baby boomer generation.

Currently, persons age 45 to 64 and 65+ are 43% of Connecticut's population.

Persons age 65 and over utilize more hospital services than other age groups.

Figure 4: Age Distribution in Connecticut as Percent of Total Town Group Population, FY 2010



The urban periphery town grouping had the largest population and the largest number of adults in both the 18 to 44 and the 45 to 64 age groups.

The statewide population by age group is shown below.

| Age | Total |
|----------|------------|
| Group | Population |
| Under 18 | 817,015 |
| 18 to 44 | 1,231,474 |
| 45 to 64 | 1,019,049 |
| 65+ | 506,559 |

The median age of the U.S. population increased from 35.3 to 37.2 years. During the same time period, the median age in Connecticut increased from 37.4 to 40.0 years.

Sources: CtSDC and U.S. Census Bureau, Census 2010

Table 4: Acute Care Discharges Distribution and Utilization Rates by Age and Gender, FY 2010

| Sex and Age Group | Discharges in 2010 | | CT Population | Utilization per 1,000 | |
|----------------------|--------------------|----------------|---------------|--------------------------|------|
| | Number | % Distribution | Number | % Distribution | Rate |
| Male | 183,081 | 43% | 1,739,614 | 49% | 105 |
| 0 to 17 | 31,638 | 7% | 418,196 | 12% | 76 |
| 18-44 | 28,719 | 7% | 614,248 | 17% | 47 |
| 45-64 | 53,733 | 13% | 494,356 | 14% | 109 |
| 65+ | 68,991 | 16% | 212,814 | 6% | 324 |
| Female | 245,347 | 57% | 1,834,483 | 51% | 134 |
| 0 to 17 | 29,301 | 7% | 398,819 | 11% | 73 |
| 18-44 | 73,013 | 17% | 617,226 | 17% | 118 |
| 45-64 | 52,564 | 12% | 524,693 | 15% | 100 |
| 65+ | 90,469 | 21% | 293,745 | 8% | 308 |
| Total | 428,424 | 100% | 3,574,097 | 100% | 120 |

Note: Table includes all discharges, regardless of state of residence.

Sources: US Census Bureau, Census 2010 and OHCA Acute Care Hospital Inpatient Discharge Database

Rates of hospital inpatient utilization varied by age and gender. Men and women age 65 and over had the highest utilization rates. These rates were approximately 2.6 times the state rate due to cardiac conditions, respiratory problems, blood or urinary infections, kidney failure, degenerative joir

failure, degenerative joint disease or falls.

As may be expected, females age 18 to 44 had a rate 1.5 times their male counterparts due, in part, to childbirth and other reproductive-related conditions.

Table 5: Acute Care Discharges, Distribution and Utilization Rates by Race/Ethnicity, FY 2010

| Race/Ethnicity | Discharges | % Distribution | Population | % Distribution | Utilization per 1,000 Population |
|---|------------|-------------------|------------|-------------------|--|
| White | 306,709 | 71.6% | 2,546,262 | 71.2% | 120 |
| Black or African American | 49,595 | 11.6% | 335,119 | 9.4% | 148 |
| Hispanic, all races | 47,523 | 11.1% | 479,087 | 13.4% | 99 |
| American Indian/Alaska Native/Aleut | 497 | 0.1% | 6,885 | 0.2% | 72 |
| Native Hawaiian and Other Pacific Islander | 84 | 0.0% | 958 | 0.0% | 88 |
| Asian | 4,974 | 1.2% | 134,091 | 3.8% | 37 |
| Other | 19,046 | 4.4% | 71,695 | 2.0% | * |
| Total | 428,428 | 100.00% | 3,574,097 | 100.0% | 120 |

Persons reporting their race as black had a utilization rate of 148/1,000 persons, 23% higher than the total state rate.
Researchers believe that these high utilization rates are the result of high risk status due to a variety of socio-economic conditions: low income, poor nutrition,

insufficient preventative care and the lack of adequate health insurance.

Census 2010 collected information on race and ethnicity as separate reporting categories. In addition, persons were able to designate more than one race.

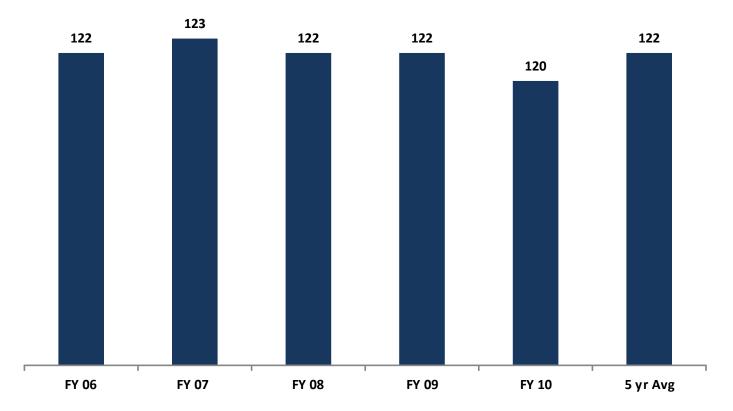
Due to the high number of "unknowns" reported for race/ethnicity in the OHCA Acute Care Hospital Inpatient Discharge Database in FY 2010, the utilization rate for the "Other" category was not reliable and therefore is not included. However, the number of discharges with an "unknown" race/ethnicity was included in the calculation for the total state rate.

Note: Table includes all discharges, regardless of state of residence.

Sources: US Census Bureau, Census 2010 and OHCA Acute Care Hospital Inpatient Discharge Database

Figure 5: Acute Care Inpatient Discharges per 1,000 Population,

FYs 2006-2010



Prior to FY 2006 the statewide hospital utilization rate rose steadily by approximately 2% per year. Since 2005, the statewide rate has leveled off at approximately 122 discharges/1,000 population.

As Connecticut's

population ages and the

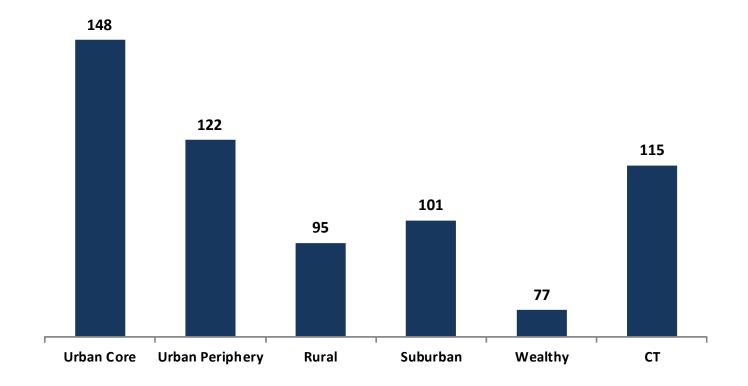
effects of health care reform

are realized, it is expected
that inpatient utilization will

experience more variability.

Sources: US Census Bureau, Census 2010 and OHCA Acute Care Hospital Inpatient Discharge Database

Figure 6: Acute Care Discharges per 1,000 Population by CtSDC Town Grouping, FY 2010

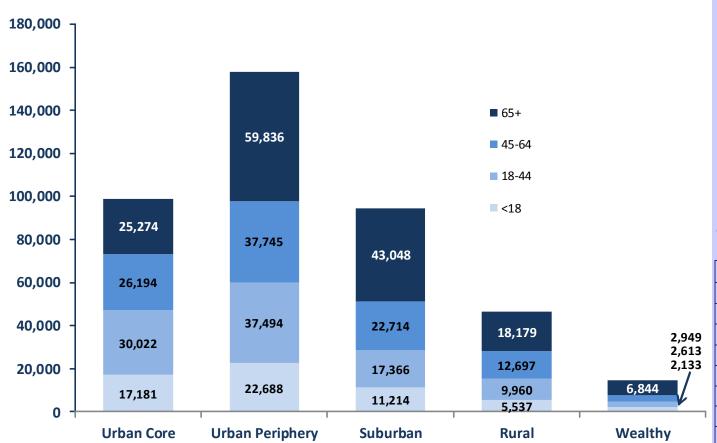


When grouping discharges by the socioeconomic status of the patient, a wider variability in discharge rates is evident.

Persons living in urban core towns with low incomes and high poverty rates had a discharge rate almost 30% higher than the state rate. The wealthy town grouping had the lowest rate.

Sources: CtSDC, US Census Bureau, Census 2010 and OHCA Acute Care Hospital Inpatient Discharge Database

Figure 7: Number of Hospital Discharges by Town Grouping and Age Group, FY 2010



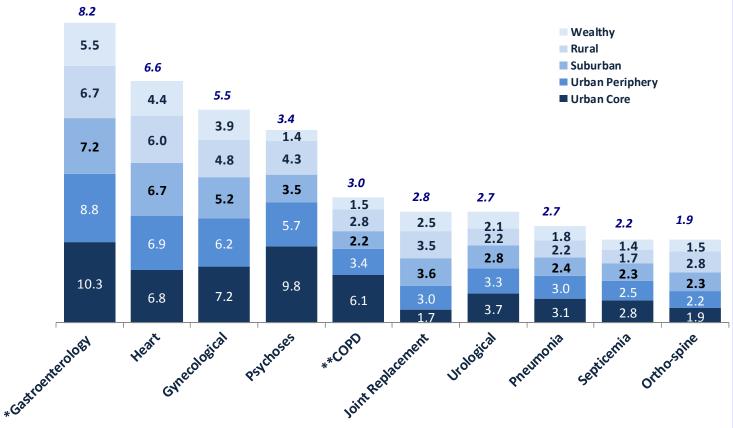
Sources: CtSDC, US Census, Census 2010 and OHCA Acute Care Hospital Inpatient Discharge Database

The largest group discharged from hospitals in FY 2010 was those age 65 and over living in urban periphery towns (59,836.)

Percentages by age group and town group:

| | <18 | 18-44 |
|------------------------|-------|-------|
| Urban Core | 17.4% | 30.4% |
| Urban Periphery | 14.4% | 23.8% |
| Suburban | 11.9% | 18.4% |
| Rural | 11.9% | 21.5% |
| Wealthy | 14.7% | 18.0% |
| | | |
| | 45-64 | 65+ |
| Urban Core | 26.5% | 25.6% |
| Urban Periphery | 23.9% | 37.9% |
| Suburban | 24.1% | 45.6% |
| Rural | 27.4% | 39.2% |
| Wealthy | 20.3% | 47.1% |

Figure 8: Top Ten Hospital Discharges by Diagnosis and Town Grouping per 1,000 Population, FY 2010



Rates for residents of all CT towns are reported above the bars in italics

Sources: CtSDC, U.S. Census Bureau, Census 2010, OHCA Acute Care Hospital Inpatient Discharge Database and PubMed Health, a division of the National Institute of Health

Childbirth, newborns, and neonatal discharges accounted for 17% of all discharges (includes out-of-state patients).

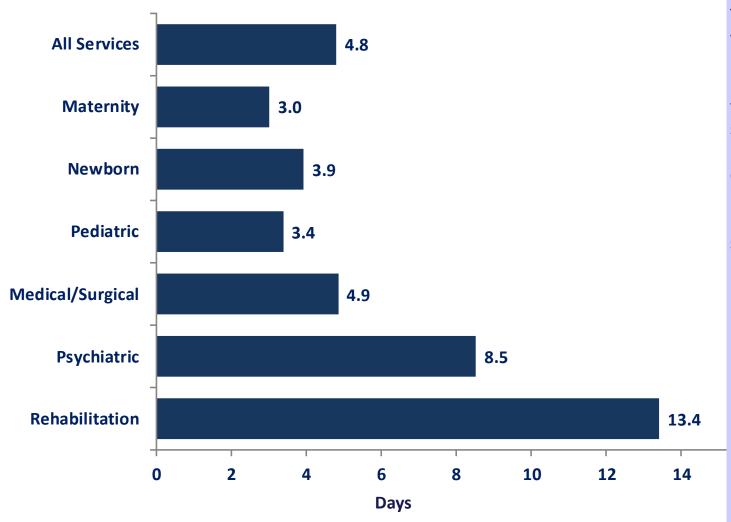
Excluding childbirth, newborns and neonatal discharges, the top ten reasons for an inpatient stay at an acute care hospital accounted for 37% percent of all discharges in 2010 (includes out-of-state patients).

Persons in the urban core and the urban periphery town groups had the highest rate of discharges in the top five categories, largely due to gastroenterology related issues.

^{*} Includes other digestive disorders

^{**} COPD — Chronic Obstructive Pulmonary Disorder





The average length of stay in an acute care hospital in Connecticut in FY 2010 was 4.8 days.

Two of the lowest volume services, rehabilitation and psychiatric, required the longest hospital stays. (see Figure 11 on page 22 for distribution of services).

Patients with the shortest stay were new mothers.

Source: OHCA Acute Care Hospital Inpatient Discharge Database

Figure 10: Percentage of All Discharges Readmitted Within Thirty Days of Discharge, FYs 2006—2010

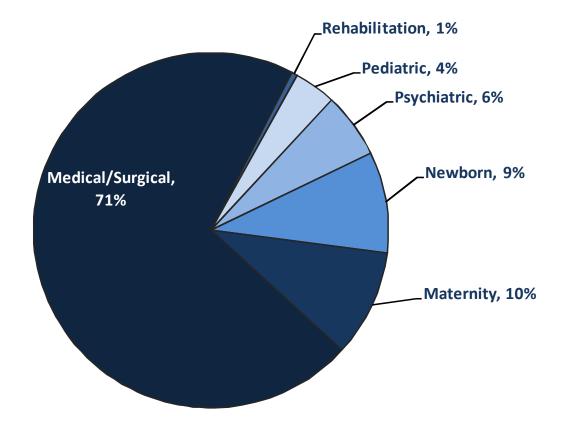


Source: OHCA Acute Care Hospital Inpatient Discharge Database

In FY 2010, 13.4% of all discharged patients from the state's acute care hospitals required readmission within 30 days. Readmissions may be an indicator of poor care or missed opportunities to better coordinate care after discharge. (Readmitted patients may have the same primary diagnosis as the previous inpatient stay or may have been admitted for a different medical issue).

As part of the Patient
Protection and Affordable
Care Act of 2010, the Centers
for Medicare and Medicaid
Services is working with
hospitals to reduce avoidable
readmissions to increase the
quality of care and reduce
costs.

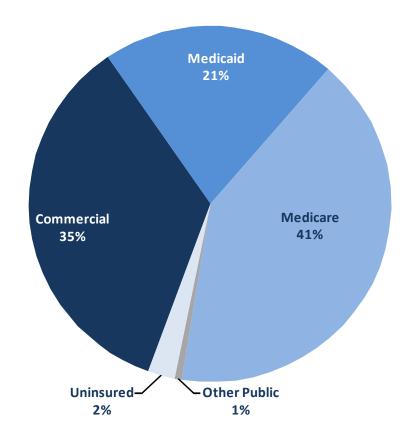
Figure 11: Services Provided by Percent of Discharges, FY 2010



The overwhelming majority of hospital inpatient discharges were for medical and/ or surgical services. Medical/surgical services include treating patients with care ranging from medicines or other therapies to surgery and its aftercare.

Source: OHCA Acute Care Hospital Inpatient Discharge Database

Figure 12: Discharges by Primary Coverage, FY 2010



Commercial includes commercial insurance companies and workers' compensation programs
Medicaid includes Charter Oak Health Plan
Other Public includes CHAMPUS (TriCare) and other federal programs
Uninsured includes self pay, no charge and other

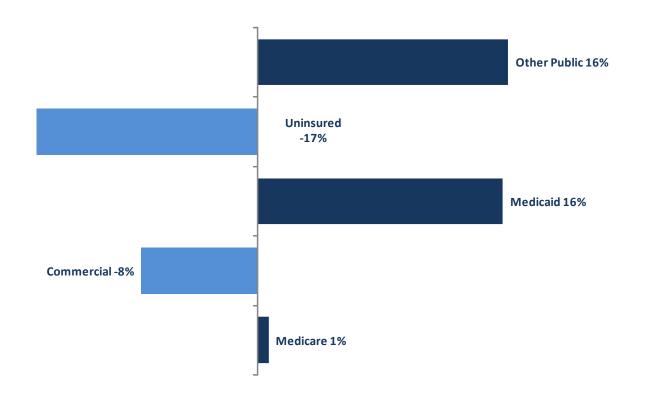
Source: OHCA Acute Care Hospital Inpatient Discharge Database

Insurance coverage is a good indicator of the largest users of inpatient health care. Medicare, a federal program for persons age 65 and older, covered 41% of Connecticut inpatients discharged in FY 2010.

Another government program, Medicaid, which includes federal and state funds, accounted for 21% of those patients discharged in FY 2010.

Overall, 63% of patients discharged in FY 2010 were covered by state or federal programs.

Figure 13: Discharges by Primary Coverage,
Percent Change from FY 2008 to FY 2010



Commercial includes commercial insurance companies and workers' compensation programs Medicaid includes Charter Oak Health Plan
Other Public includes CHAMPUS (TriCare) and other federal programs
Uninsured includes self pay, no charge and other

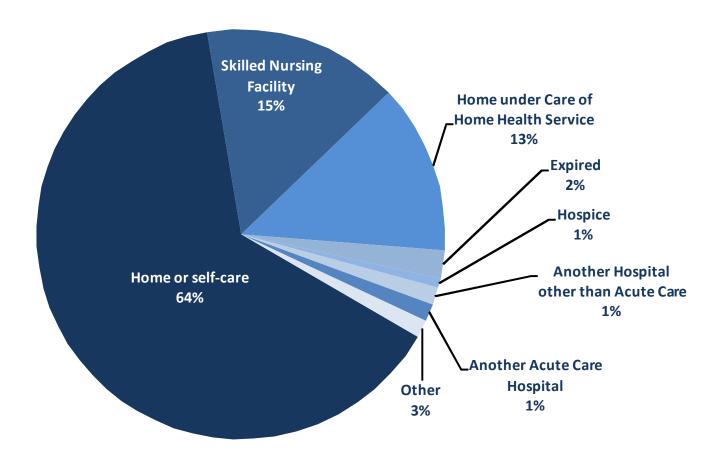
Source: OHCA Acute Care Hospital Inpatient Discharge Database

The changes in primary coverage by inpatients discharged in FY 2010 may be attributable to the economic conditions experienced in Connecticut.

Medicaid and Other
Public health care
coverage providers
increased by 16% each
between FY 2008 and FY
2010.

The measurable decline in Uninsured discharges may be due, in part, to those patients delaying seeking treatment.

Figure 14: Patient Discharge Status, FY 2010



Nearly two-thirds of patients who were discharged from their inpatient stay at an acute-care hospital were sent home.

The next largest groups were those patients who required additional care either at home with home health care services or at a skilled nursing facility.

Source: OHCA Acute Care Hospital Inpatient Discharge Database

Table 6: Acute Care Hospital Emergency Department Visits,

FYs 2007 to 2010

| Fiscal Year | Visits for Patients Treated and Admitted as Inpatient | Visits for Patients Treated and Discharged | Total Number of Emergency Department Visits |
|-------------|---|--|--|
| 2007 | 237,590 | 1,282,796 | 1,520,385 |
| 2007 | 15.6% | 84.4% | 100% |
| 2008 | 239,902 | 1,319,821 | 1,559,723 |
| 2008 | 15.4% | 84.6% | 100% |
| 2009 | 242,911 | 1,373,099 | 1,616,010 |
| 2009 | 15.0% | 85.0% | 100% |
| 2010 | 246,398 | 1,392,345 | 1,638,743 |
| 2010 | 15.0% | 85.0% | 100% |

All 30 of Connecticut's acute care hospitals and five satellite EDs provide their communities with emergency care.

Hospital Emergency
Departments are a
primary source of
hospital inpatients. For
the past four years,
approximately 15% of
persons who presented
at a Connecticut
Emergency Department
were admitted for
inpatient care.

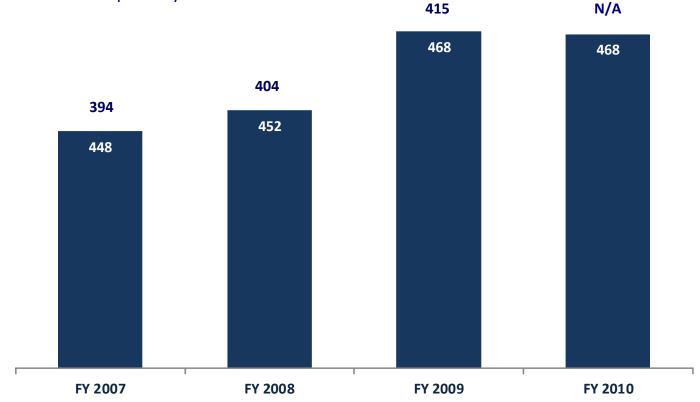
Visits reported do not include those from Sharon Hospital. Sharon reported 13,838, 14,270 and 14, 124 visits in FYs 2007, 2008 and 2009, respectively, with fewer than 1% being admitted as an inpatient. Information for FY 2010 not available at time of publication.

Sources: CHA Chime, Inc., ED Database and US Census Bureau, Census 2010

Figure 15: Emergency Department Utilization Rate per 1,000 Persons,

FYs 2007 to 2010

Number above bar is the national rate for the reported year.



2010, Connecticut ED utilization increased 6.9%. The average annual growth rate was 2.3%. ED visits increased approximately 1.5% from FY 2009 to FY 2010.

Between FY 2007 and

The Connecticut ED utilization rate in FY 2010 was 468 visits per 1,000 persons, the same rate as FY 2009.

In FY 2009, the most recent year available, the national rate was 415 visits per 1,000, a 2.7% increase from 404 per 1,000 in FY 2008.

Connecticut's ED use rate exceeded the national average from 2007 to 2009.

Sources: CHA Chime, Inc., ED Database and US Census Bureau, Census 2010

Table 7: ED Visits and Utilization Rates by Age and Gender, FY 2010

| Sex and Age Group | Discharges in 2010 | | CT Popul | Utilization per 1,000 | |
|----------------------|--------------------|----------------|-----------|--------------------------|------|
| | Number | % Distribution | Number | % Distribution | Rate |
| Male | 754,278 | 46% | 1,739,614 | 49% | 434 |
| 0 to 17 | 175,990 | 11% | 418,196 | 12% | 421 |
| 18-44 | 282,387 | 17% | 614,248 | 17% | 460 |
| 45-64 | 181,267 | 11% | 494,356 | 14% | 367 |
| 65+ | 114,634 | 7% | 212,814 | 6% | 539 |
| Female | 884,474 | 54% | 1,834,483 | 51% | 482 |
| 0 to 17 | 154,446 | 9% | 398,819 | 11% | 387 |
| 18-44 | 372,013 | 23% | 617,226 | 17% | 603 |
| 45-64 | 191,961 | 12% | 524,693 | 15% | 366 |
| 65+ | 166,054 | 10% | 293,745 | 8% | 565 |
| Total | 1,638,752 | 100% | 3,574,097 | 100% | 459 |

Visits reported do not include those from Sharon Hospital. Sharon reported 13,838, 14,270 and 14, 124 visits in FYs 2007, 2008 and 2009, respectively, with fewer than 1% being admitted as an inpatient. Information for FY 2010 not available at time of publication.

Sources: CHA Chime, Inc., ED Database and US Census Bureau, Census 2010

The state utilization rate for ED visits in FY 2010 was 459/1,000 population.

Women overall utilized the ED at a higher rate than men. The group with the highest rate was females age 18 to 44 due, in part, to childbirth and other reproductive-related conditions.

The groups with the lowest rate of ED visits were men and women age 45 to 64.

Table 8: ED Visits and Utilization Rates by Race/Ethnicity, FY 2010

| Race/Ethnicity | Discharges | % Distribution | Population | % Distribution | Utilization per 1,000 Population |
|---|------------|----------------|------------|----------------|--|
| White | 864,617 | 53% | 2,546,262 | 71.2% | 339 |
| Black or African American | 221,813 | 14% | 335,119 | 9.4% | 662 |
| Hispanic, all races | 325,629 | 20% | 479,087 | 13.4% | 680 |
| American Indian/Alaska Native/Aleut | 1,366 | 0% | 6,885 | 0.2% | 198 |
| Native Hawaiian and Other Pacific Islander | 241 | 0% | 958 | 0.0% | 252 |
| Asian | 11,852 | 1% | 134,091 | 3.8% | 88 |
| Other | * | * | * | 2.0% | * |
| Total | 1,638,752 | 100% | 3,574,097 | 100.0% | 459 |

There was large variability in the rate of ED visits when considering race and ethnicity only. Hispanics and Blacks had the highest utilization.

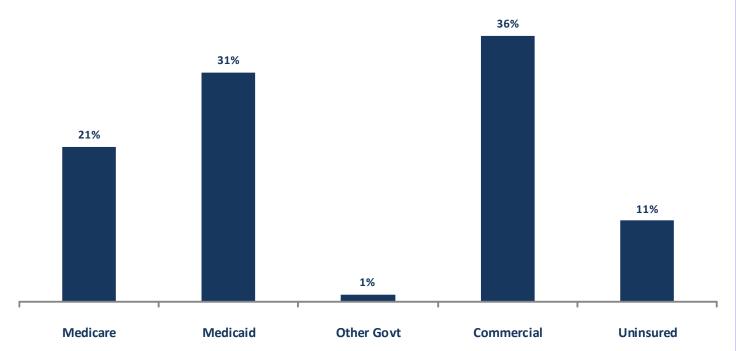
Higher use rates of EDs may indicate that patients are uninsured or underinsured or have inadequate access to primary care.

Census 2010 collected information on race and ethnicity separately. In addition, persons were able to designate more than one race.

*Due to the high number of "unknowns" reported for race/ethnicity in the ED Database in FY 2010, the "Other" category is not reliable and therefore is not included. The 2.0% population distribution is the difference between the total population and the reported race/ethnicity categories. However, the number of discharges was included in the calculation for the total state rate.

Sources: CHA Chime, Inc., ED Database and US Census Bureau, Census 2010

Figure 16: Average Primary Payer Mix for ED Visits,
FYs 2008 to 2010



Reported percentages do not include ED Visit Data from Sharon Hospital.

Commercial includes commercial insurance companies and workers' compensation programs

Medicaid includes Charter Oak Health Plan

Other Public includes CHAMPUS (TriCare), and other federal programs

Uninsured includes self pay, no charge and other

Source: CHA Chime, Inc., ED Database

In the last three years patients with public coverage, including Medicare, Medicaid, and other government payers accounted for 53% of the increase in ED visits from FY 2008 to FY 2010.

Table 9: Hospital-based Outpatient Utilization,
FYs 2007 to 2010

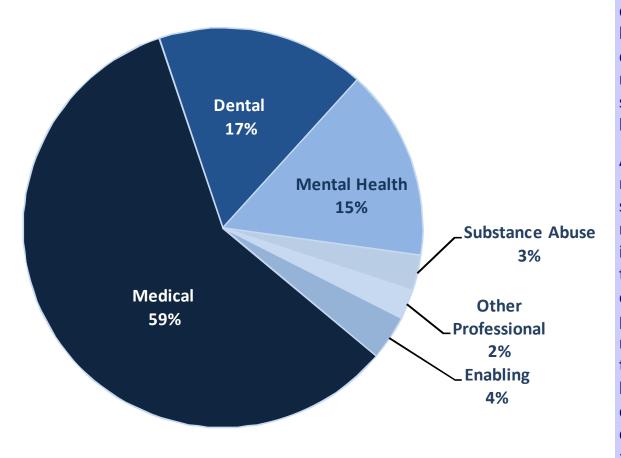
| Fiscal Year | Total Outpatient Visits | Connecticut Population | Utilization Rate |
|-------------------------|-------------------------------|---------------------------|---------------------|
| 2007 | 5,570,859 | 3,489,868 | 1.6 |
| 2008 | 5,712,587 | 3,501,252 | 1.6 |
| 2009 | 6,035,002 | 3,518,288 | 1.7 |
| 2010 | 6,142,300 | 3,574,097 | 1.7 |
| %Change 2007 to 2010 | 10.3% | 2.4% | |

While the population of Connecticut increased by slightly more than 2% between 2007 and 2010, the number of outpatient visits increased by approximately 10%.

Utilization is reported as the number of outpatient visits per 1,000 persons.

Sources: OHCA Hospital Reporting System Report 450 — Hospital Inpatient and Outpatient Other Services Utilization and FTEs

Figure 17: Type of Services Provided by Federally Qualified Health Centers, FY 2009



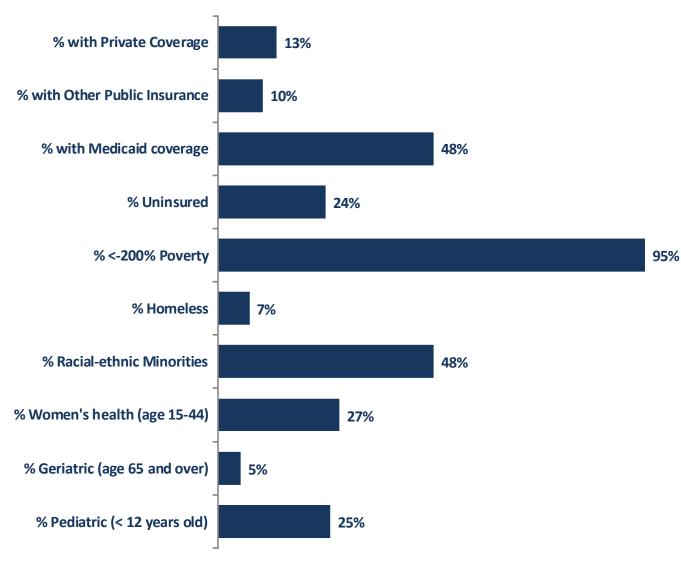
Source: U.S. Department of Health and Human Services, Health Resources and Services Administration, Health Center Data 2009

Federally Qualified
Health Centers (FQHCs)
provide a wide range of
primary and preventive
health services, including
dental, pharmacy,
behavioral health, vision,
chronic care
management and social
services, as well as public
health interventions.

Although not clinical in nature, "enabling services," (including case management, interpretation, transportation, and other mechanisms) link patients to preventive medicine and necessary treatments. These services help break down barriers to care and provide services in culturally and linguistically appropriate settings.

In FY 2010, there were 13 FQHC grantees, some having multiple service locations.

Figure 18: Medical Insurance Source and Patient Demographics of Federally Qualified Health Centers in Connecticut, FY 2009



The poverty guidelines updated periodically in the Federal Register by the DHHS under the authority of 42 U.S.C. 9902(2)

Sources: U.S. Department of Health and Human Services, Health Resources and Services Administration (DHHS), Health Center Data 2009

In FY 2009, Connecticut's FQHCs served more than 277,500 patients who had over 1.3 million visits.

FQHCs reported demographic, clinical, and insurance coverage information for the patients they served.

Almost all of their patients had an income below 200% of the poverty guidelines established by the U.S.

Department of Health and Human Resources (e.g., \$22,050 for a family of four in 2009). FQHCs enabled the state's poorest patients to obtain health care at a discounted rate or for no charge. Nearly half of the patients had Medicaid coverage and almost one-quarter had no insurance at all.

The FQHCs provide necessary primary care and other health services to neediest residents of Connecticut. Without the FQHCs many of these patients may not have received any health care services.

Table 10: Number of Primary Care Practitioners per 1,000, FY 2010

| Profession | Number Licensed As of August 2010 | Population | Number of Practitioners Per 1,000 Population |
|--|--------------------------------------|------------|---|
| Physicians, Surgeons and Osteopaths | 16,648 | 3,574,097 | 4.7 |
| Naturopathic Physicians | 250 | 3,574,097 | 0.1 |
| Advanced Practice Registered Nurses | 3,292 | 3,574,097 | 0.9 |
| Licensed Nurse Midwives | 207 | 691,265 | 0.3 |
| Physician Assistants | 1,693 | 3,574,097 | 0.5 |
| Dentists | 3,279 | 3,574,097 | 0.9 |
| Dental hygienists | 3,561 | 35,74,097 | 1.0 |
| Total | 28,930 | 3,574,097 | 8.1 |

Sources: CT DPH Health Practitioner Licensing and Investigations Section August 2010. US Census Bureau, Census 2010

Physicians, surgeons, and osteopaths account for 58% of the primary care practitioners licensed in Connecticut in FY 2010.

Adequate access to primary care providers will become even more important in the future as health care reform is expected to make health insurance coverage available to many more

Connecticut residents

Moreover, as Connecticut grapples with increasing rates of chronic disease and illness associated with an aging population, adequate access to primary care practitioners can help prevent disease and illness as well as reduce costs to the health care system.

who are currently uninsured.

Appendix I: Acute Care Beds and Patient Days by Hospital and Service, FY 2010

| | | Beds | | Patient Beds Days for Service | | | | | | | | | | |
|-----------------------------------|----------|---------|----------------|-------------------------------|--|---------------------------|-----------------------|---------------------|-----------|---------|-------------------|-----------|-------|----------------------|
| Hospital | Licensed | Staffed | Avail- able | Adult Medical/ Surgical | ICU/CCU (Excludes Neonatal ICU) | Psychiatric: Ages 0 to 17 | Psychiatric: Ages 18+ | Rehabili- tation | Maternity | Newborn | Neona- tal ICU | Pediatric | Other | Total Bed Days |
| Bridgeport Hospital | 425 | 290 | 397 | 67,481 | 7,955 | 0 | 6,158 | 5,077 | 7,002 | 4,827 | 4,058 | 2,171 | 0 | 104,729 |
| Bristol Hospital | 154 | 132 | 154 | 20,317 | 2,441 | 0 | 4,537 | 0 | 1,652 | 1,540 | 0 | 186 | 0 | 30,673 |
| Charlotte Hungerford Hospital | 122 | 81 | 122 | 18,568 | 2,026 | 81 | 5,194 | 0 | 935 | 904 | 0 | 271 | 0 | 27,979 |
| CT Children's Medical Center | 147 | 142 | 147 | 0 | 4,587 | 0 | 0 | 0 | 0 | 0 | 10,228 | 21,984 | 0 | 36,799 |
| Danbury Hospital | 371 | 278 | 365 | 61,079 | 3,741 | 110 | 6,942 | 4,416 | 6,763 | 4,922 | 4,119 | 3,792 | 0 | 95,884 |
| Day Kimball Hospital | 122 | 72 | 122 | 11,224 | 637 | 0 | 4,535 | 0 | 1,239 | 1,200 | 0 | 41 | 0 | 18,876 |
| Essent - Sharon Hospital | 94 | 47 | 94 | 5,290 | 1,698 | 0 | 3,243 | 0 | 778 | 613 | 0 | 0 | 0 | 11,622 |
| Greenwich Hospital | 206 | 206 | 206 | 35,559 | 2,109 | 0 | 0 | 0 | 7,186 | 5,398 | 1,980 | 827 | 0 | 53,059 |
| Griffin Hospital | 180 | 94 | 180 | 22,409 | 3,144 | 0 | 4,517 | 0 | 1,806 | 1,553 | 0 | 0 | 0 | 33,429 |
| Hartford Hospital | 867 | 630 | 760 | 138,984 | 23,530 | 8,218 | 28,09 1 | 0 | 11,512 | 9,779 | 0 | 0 | 0 | 220,114 |
| Hospital of Saint Raphael | 533 | 364 | 489 | 78,065 | 21,660 | 5,465 | 7,952 | 3,800 | 3,440 | 2,585 | 1,193 | 113 | 0 | 124,273 |
| John Dempsey Hospital | 224 | 224 | 224 | 24,725 | 3,774 | 0 | 5,206 | 0 | 3,409 | 2,040 | 8,408 | 0 | 3,668 | 51,230 |
| Johnson Memorial Hospital | 101 | 72 | 95 | 11,451 | 1,529 | 0 | 3,429 | 0 | 721 | 607 | 0 | 0 | 0 | 17,737 |
| Lawrence and Memorial Hospital | 308 | 256 | 256 | 45,369 | 5,518 | 0 | 5,132 | 4,736 | 4,439 | 3,320 | 2,027 | 1,220 | 0 | 71,761 |
| Manchester Memorial Hospital | 283 | 140 | 2 83 | 23,371 | 5,259 | 1,396 | 8,674 | 0 | 3,053 | 3,182 | 0 | 0 | 0 | 44,935 |
| Middlesex Memorial Hospital | 297 | 178 | 214 | 35,141 | 10,265 | 0 | 5,977 | 0 | 3,230 | 3,216 | 0 | 0 | 0 | 57,829 |
| MidState Medical Cen- ter | 156 | 142 | 156 | 33,593 | 2,167 | 0 | 1,840 | 0 | 2,430 | 2,329 | 0 | 0 | 0 | 42,359 |
| Milford Hospital | 118 | 51 | 118 | 13,379 | 1,923 | 0 | 0 | 0 | 1,199 | 1,207 | 0 | 0 | 0 | 17,708 |
| New Milford Hospital | 95 | 30 | 95 | 6,890 | 1,005 | 0 | 0 | 0 | 759 | 706 | 0 | 22 | 0 | 9,382 |

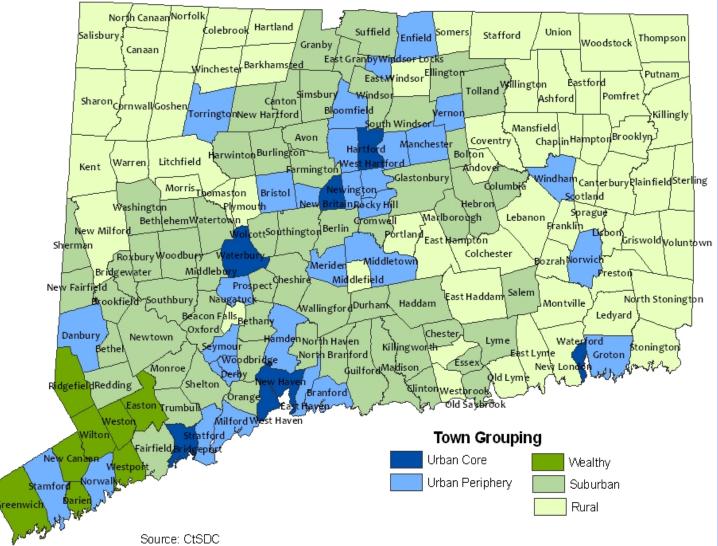
Sources: CT Department of Public Health Division of Office of Health Care Access Hospital Reporting System Report 400 and CT Department of Public Health license data

Appendix I: Acute Care Beds and Patient Days by Hospital and Service, FY 2010 (continued)

| | | Beds | | Patient Beds Days for Service | | | | | | | | | | |
|---|----------|---------|----------------|-------------------------------|--|---------------------------------|-------------------------------|---------------------|----------------|--------------|-----------------|-----------|-------|----------------------|
| Hospital | Licensed | Staffed | Avail- able | Adult Medi- cal/Surgical | ICU/CCU (Excludes Neonatal ICU) | Psychiatric: Ages 0 to 17 | Psychiat- ric: Ages 18+ | Rehabili- tation | Mater- nity | New- born | Neonatal ICU | Pediatric | Other | Total Bed Days |
| Norwalk Hospital | 366 | 194 | 312 | 33,635 | 13,469 | 0 | 3,607 | 7,458 | 4,770 | 3,630 | 1,592 | 1,256 | 0 | 69,417 |
| Rockville General Hospital | 118 | 66 | 118 | 10,225 | 1,934 | 0 | 0 | 0 | 1,084 | 937 | 0 | 0 | 0 | 14,180 |
| St. Francis Hospital and Medical Center | 682 | 593 | 593 | 104,685 | 10,839 | 5,488 | 10,846 | 0 | 10,090 | 6,255 | 6,257 | 0 | 0 | 154,460 |
| St. Mary's Hospital | 379 | 181 | 181 | 38,326 | 3,485 | 0 | 4,116 | 0 | 3,022 | 2,204 | 0 | 0 | 1,454 | 52,607 |
| St. Vincent's Medical Center | 520 | 423 | 423 | 77,511 | 7,435 | 4,864 | 23,113 | 2,742 | 3,368 | 3,779 | 0 | 0 | 0 | 122,812 |
| Stamford Hospital | 330 | 269 | 322 | 46,905 | 1,026 | 0 | 5,794 | 4,585 | 8,467 | 6,072 | 2,271 | 1,105 | 0 | 76,225 |
| The Hospital of Central Connecticut | 446 | 341 | 356 | 56,535 | 7,080 | 0 | 6,294 | 0 | 5,239 | 4,018 | 1,823 | 883 | 0 | 81,872 |
| Waterbury Hospital | 393 | 192 | 292 | 39,527 | 4,890 | 1,145 | 5,588 | 0 | 3,095 | 2,166 | 1,386 | 0 | 1,474 | 59,271 |
| Backus (William W.) Hospital | 233 | 202 | 233 | 36,698 | 3,221 | 0 | 4,960 | 0 | 2,244 | 1,973 | 0 | 0 | 0 | 49,096 |
| Windham Commu- nity Hospital | 144 | 87 | 144 | 16,350 | 2,334 | 0 | 0 | 0 | 1,184 | 982 | 0 | 0 | 0 | 20,850 |
| Yale-New Haven Hospital | 944 | 871 | 919 | 160,848 | 31,498 | 4,411 | 26,155 | 0 | 15,771 | 9,114 | 17,054 | 19,854 | 0 | 284,705 |
| Total | 9,358 | 6,848 | 8,370 | 1,274,140 | 192,179 | 31,178 | 191,900 | 32,814 | 119,887 | 91,058 | 62,396 | 53,725 | 6,596 | 2,055,873 |

Sources: CT Department of Public Health Division of Office of Health Care Access Hospital Reporting System Report 400 and CT Department of Public Health license data

Appendix II: Town Groupings by Socioeconomic Characteristics



The *Urban Core* towns have the lowest income, highest, poverty, and the highest population density.

The *Urban Periphery* towns have below average income, average poverty, and high population density.

The *Suburban* towns have above average income, low poverty, and moderate population density.

The *Rural towns* have average income, below average poverty, and the lowest population density.

The *Wealthy* towns have exceptionally high income, low poverty, and moderate population density.

Source: The Changing Demographics of Connecticut—1990 to 2000, May 2004, CtSDC